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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,377	10/03/2003	Makoto Sato	03560.003374.	9735

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NEW YORK, NY 10112

EXAMINER

SMITH, JEFFREY S

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/677,377	Applicant(s) SATO, MAKOTO	
	Examiner Jeffrey S. Smith	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 1-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected distinct invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 12, 2006.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: The specification to which the oath or declaration is directed has not been adequately identified. The oath lists the filing date of Japanese Application Number 2003-134022 as October 24, 2003. However, the certified copy of this application lists the filing date as May 13, 2003. Also, the oath lists the filing date of Japanese Application Number 2002-309841 as October 24, 2003, but the certified copy of this application lists the filing date as October 24, 2002. See MPEP § 602.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claims 16, 19, 23 and 26 are not shown in the drawings. Therefore, the features of claim 16, "an image attributes attaching step, of deciding image attributes of the difference image obtained in said computing step according to the image attributes and the display method, and attaching the decided image attributes to the difference image" and claim 19, "attaching image attributes information representing the gradient of the difference image" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the features of claims 16, 19, 23 and 26 are not described in the specification. These features must be described in the specification or canceled from the claims. No new matter should be entered.

Claim Objections

Claims 27-30 are objected to because of the following informalities: These claims are multiple dependent claims that refer back to both elected and non-elected claims. The reference to the non-elected claims must be canceled from the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16, 19, 23 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A program that is not stored in a computer readable medium, as recited in claims 27 and 29, is non-statutory subject matter. Also, for claims 28 and 30, "program" should be "computer program."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,934,409 issued to Ohara ("Ohara").

For claims 13 and 20, Ohara discloses a control step of deciding a gradient processing method (see Fig. 3 and column 35 line 50) such that the shadow change

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regions are displayed in a predetermined manner (see col. 35 lines 4-10) based on image attributes (such as an interior region and an exterior region in the image, see col. 35 lines 54-67) of the first image and the second image (the first and second image are part of phase contrast imaging, see Fig. 10 and column 22 lines 21-28).

Ohara also discloses a gradient processing step of performing predetermined gradient processing on the first image and/or the second image following the decision in said control step (see column 35 line 50), and a computing step of computing a difference image from the first and second images processed in said gradient processing step (see Fig. 10 and col. 22 lines 51-53 and col. 24 lines 33-36).

For claims 14 and 21, Ohara discloses an image attributes acquisition step of acquiring image attributes of the first image and the second image (see Fig. 10), a shadow definition input step in which a user selects a display method (see Fig. 26 and col. 35 lines 43-49), wherein a gradient processing method is decided so as to carry out the display method input in said shadow definition input step, based on the image attributes (interior and exterior regions) of the first image and the second image acquired in said image attributes acquisition step (col. 35 lines 43-49).

For claims 15 and 22, Ohara discloses a gradient inversion step in which gradient inversion processing is performed on the first and/or second image (See col. 36 lines 21-23, the gradation of black and white are reversed. See also Figs. 3, 10 and 14 and column 25 line 61 through column 26 line 4, where the gradient processing for the subtraction of the images of figure 10 is inverted during the addition of the images of figure 14).

For claims 16 and 23, Ohara discloses an image information attaching step, of deciding image attributes of the difference image obtained in said computing step according to the image attributes and the display method, and attaching the decided image attributes to the difference image (see col. 35 lines 10-20 and Figs. 21-23, deciding attributes (detecting the abnormal shadows), and attaching markers to the attributes).

For claims 17 and 24, the images are images taken of the same portion of the human body at different points in time (see col. 24 lines 33-36).

For claims 18 and 25, Ohara discloses representing increases or decreases in shadows in the difference image as either high-luminance regions or low-luminance regions (See column 36 lines 21-23. See also Figs. 3, 10 and 14 and column 25 line 61 through column 26 line 4, where the increases are high-luminance regions in the addition processing of figure 14, and low-luminance regions in the subtraction processing of figure 10).

For claims 19 and 26, Ohara discloses that the image attributes information represents the gradient of the difference image (see col. 35 lines 10-20 and Figs. 16, and 21-23, abnormal shadow candidate detecting means 606 and abnormal shadow storing means 608 detects abnormal shadows that are recognized from the gradient of the difference image, and attaches information to mark the abnormal shadows).

For claims 27-30, Ohara discloses a program that is executed by a processor for performing gradient processing as shown in Fig. 1.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,215,848 issued to Linders et al. discloses interchanging the high and low grey values of the positive and negative difference images (see column 3 lines 35-40).

U.S. Patent No. 5,982,953 issued to Yanagita et al. discloses gradient processing for an addition image (see figure 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


JINGGE WU
SUPERVISORY PATENT EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS
January 19, 2007